

SEQUENCE LISTING

<110> GARVER, Eric  
TU, Guang-Chou  
ISRAEL, Yedy

<120> METHODS OF INHIBITING ALCOHOL CONSUMPTION

<130> 9855-3U2

<140> NOT YET ASSIGNED  
<141> 2001-08-17

<150> US 60/051,705  
<151> 1997-07-03

<150> US 09/109,663  
<151> 1998-07-02

<160> 111

<170> PatentIn Ver. 2.1

<210> 1  
<211> 21  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Candidate  
TNF(alpha) ASO

<400> 1  
cctcgctgag ttctgccggc t

21

<210> 2  
<211> 21  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Candidate  
TNF(alpha) ASO

<400> 2  
ccgtgctcat ggtgtccctt c

21



<210> 3  
<211> 21  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Candidate  
TNF(alpha) ASO

<400> 3  
gatcatgctt tccgtgctca t 21

<210> 4  
<211> 21  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Candidate  
TNF(alpha) ASO

<400> 4  
ggcactcacc tcctccttgt t 21

<210> 5  
<211> 21  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Candidate  
TNF(alpha) ASO

<400> 5  
acacttactg agtgtgaggg t 21

<210> 6  
<211> 21  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Candidate  
TNF(alpha) ASO



<400> 6  
aaacttacct acgacgtggg c

21

<210> 7  
<211> 21  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Candidate  
TNF(alpha) ASO

<400> 7  
gtcgcctcac agagcaatga c

21

<210> 8  
<211> 21  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Candidate  
TNF(alpha) ASO

<400> 8  
agttagttcc gaaagcccat t

21

<210> 9  
<211> 21  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Candidate  
TNF(alpha) ASO

<400> 9  
ggcatcgaca ttctggggatc c

21

<210> 10  
<211> 21  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Candidate  
TNF(alpha) ASO

<400> 10  
tgatccactc cccccctccac t

21

<210> 11  
<211> 21  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Candidate  
TNF(alpha) ASO

<400> 11  
cagccttgtg agccagaggc a

21

<210> 12  
<211> 21  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Candidate  
TNF(alpha) ASO

<400> 12  
ggaggcctga gacatcttca g

21

<210> 13  
<211> 21  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Candidate  
TNF(alpha) ASO

<400> 13  
aggaaaggaa ggaaggaaagg g

21

<210> 14  
<211> 21  
<212> DNA  
<213> Artificial Sequence  
  
<220>  
<223> Description of Artificial Sequence: Candidate  
TNF(alpha) ASO  
  
<400> 14  
ctgagggagg gaaggaagga a

21

<210> 15  
<211> 20  
<212> DNA  
<213> Artificial Sequence  
  
<220>  
<223> Description of Artificial Sequence: Candidate  
TNF(alpha) ASO  
  
<400> 15  
ggttccgtaa ggaaggctgg

20

<210> 16  
<211> 21  
<212> DNA  
<213> Artificial Sequence  
  
<220>  
<223> Description of Artificial Sequence: Candidate  
TNF(alpha) ASO  
  
<400> 16

aataataaat aataaataaaa t

21

<210> 17  
<211> 21  
<212> DNA  
<213> Artificial Sequence  
  
<220>  
<223> Description of Artificial Sequence: Candidate  
TNF(alpha) ASO

<400> 17  
ttcccaacgc tgggtcctcc a 21

<210> 18  
<211> 21  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Candidate  
TNF(alpha) ASO

<400> 18  
cccccgatcc actcaggcat c 21

<210> 19  
<211> 21  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Candidate  
TNF(alpha) ASO

<400> 19  
actccccgaa tccactcagg c 21

<210> 20  
<211> 21  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Candidate  
TNF(alpha) ASO

<400> 20  
tccactcccc cgatccactc a 21

<210> 21  
<211> 21  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Candidate  
TNF(alpha) ASO

<400> 21  
ccctccactc ccccgatcca c 21

<210> 22  
<211> 21  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Candidate  
TNF(alpha) ASO

<400> 22  
ccccccctcca ctcccccgat c 21

<210> 23  
<211> 21  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Candidate  
TNF(alpha) ASO

<400> 23  
actccccctt ccactccccc g 21

<210> 24  
<211> 21  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Candidate  
TNF(alpha) ASO

<400> 24  
tccactcccc cctccactcc c 21

<210> 25

<211> 21  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Candidate  
TNF(alpha) ASO

<400> 25  
tgatccactc cccccctccac t

21

<210> 26  
<211> 21  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Candidate  
TNF(alpha) ASO

<400> 26  
gcctgatcca ctccccccctc c

21

<210> 27  
<211> 21  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Candidate  
TNF(alpha) ASO

<400> 27  
gcagcctgat ccactccccc c

21

<210> 28  
<211> 21  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Candidate  
TNF(alpha) ASO

<400> 28



gaggcagcct gatccactcc c

21

<210> 29  
<211> 21  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Candidate  
TNF(alpha) ASO

<400> 29  
agtggagggg ggagtggatc a

21

<210> 30  
<211> 21  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Candidate  
TNF(alpha) ASO

<400> 30  
ccctcaactgc tacctcacct c

21

<210> 31  
<211> 19  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Candidate  
TNF(alpha) ASO

<400> 31  
actccccccct ccactcccc

19

<210> 32  
<211> 18  
<212> DNA  
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Candidate  
TNF(alpha) ASO

<400> 32  
tccactcccc cgatccac 18

<210> 33  
<211> 16  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Candidate  
TNF(alpha) ASO

<400> 33  
tgatccactc cccctc 16

<210> 34  
<211> 3634  
<212> DNA  
<213> Homo sapiens

<400> 34  
gaattccggg tgatttcact cccggctgtc caggcttgc ctgctacccc acccagcctt 60  
tcctgaggcc tcaaggcctgc caccaagccc ccagctcctt ctcccccgcag gacccaaaca 120  
caggcctcag gactcaacac agctttccc tccaacccgt tttctctccc tcaacggact 180  
cagcttctg aagccctcc cagttctagt tctatcttt tcctgcattcc tgtctggaag 240  
ttagaaggaa acagaccaca gacctggtcc cccaaaagaaa tggaggcaat aggttttag 300  
gggcatgggg acggggttca gcctccaggg tcctacacac aaatcagtca gtggcccaga 360  
agaccccccctt cggaatcgga gcagggagga tggggagtgt gaggggtatc ttgatgctt 420  
gtgtgtcccc aactttccaa atccccgccc ccgcgcgtggaa gaagaaaaccg agacagaagg 480  
tgcagggccc actaccgctt cctccagatg agctcatggg tttctccacc aaggaagttt 540  
tccgctgggtt gaatgattct ttcccccgcctt ccctctcgcc ccagggacat ataaaggcag 600  
tttgttggcac acccagccag cagacgctcc ctcagcaagg acagcagagg accagctaag 660  
agggagagaa gcaactacag acccccccctg aaaacaaccc tcagacgcca catccccctga 720  
caagctgcca ggcaggttctt cttccctctca catactgacc cacggcttca ccctctctcc 780  
cctggaaagg acaccatgag cactgaaagc atgatccggg acgtggagct ggccgaggag 840  
gcgcgtccccca agaagacagg gggggcccccag ggctccaggc ggtgcttggtt cctcagcctc 900  
ttctccctcc ttgatcgtggc aggccacc acgttcttgc ctgtctgca ctttggagtg 960  
atcggccccc agagggaaaga ggtgagtgcc tggccagcct tcataccactc tcccacccaa 1020  
ggggaaatga gagacgcaag agagggagag agatggatg ggtgaaagat gtgcgttatgat 1080  
agggagggat gagagagaaa aaaacatgga gaaagacggg gatgcagaaa gagatgtggc 1140  
aagagatggg gaagagagag agagaaagat ggagagacag gatgtctggc acatggaagg 1200  
tgctcaactaa gtgtgttatgg agtgaatgaa tgaatgaatg aatgaacaag cagatatata 1260  
aataagatat ggagacagat gtgggggtgtg agaagagaga tggggaaaga aacaagtatgat 1320

atgaataaaag atggtgagac agaaagagcg ggaaatatga cagctaagga gagagatggg 1380  
ggagataagg agagaagaag atagggtgtc tggcacacag aagacactca gggaaagagc 1440  
tgttgaatgc tggaaaggta atacacagat gaatggagag agaaaaccag acacctcagg 1500  
gctaagagcg caggccagac aggccagccag ctgttcctcc tttaagggtg actccctcga 1560  
tgttaaccat tctccttctc cccaacagtt ccccaggac ctctctctaa tcagccctct 1620  
gccccaggca gtcagtaagt gtctccaaac ctcttccta attctgggtt tgggtttggg 1680  
gttagggta gtaccggtat ggaagcagt gggaaattt aaagtttgg tcttggggga 1740  
gatggatgg aggtgaaagt aggggggtat tttctaggaa gtttaagggt ctca gctttt 1800  
tctttctct ctcctcttca ggatcatctt ctcgaacccc gagtgacaag cctgttagccc 1860  
atgtttagg taagagctct gaggatgtgt ctggaaactt ggagggttag gatttggggga 1920  
ttgaagcccc gctgatggta ggcagaactt ggagacaatg tgagaaggac tcgctgagct 1980  
caagggaaagg gtggaggaac agcacaggcc ttagtggat actcagaacg tcatggccag 2040  
gtggatgtg ggatgacaga cagagaggac aggaaccgga tgtgggtgg gcagagctcg 2100  
agggccagga tgtggagagt gaaccgacat ggccacactg actctcctct ccctctctcc 2160  
ctccctccag caaacccctca agctgagggg cagctccagt ggctgaaccc cgccggccaaat 2220  
gccctcctgg ccaatggcgt ggagctgaga gataaccagc tggtggtgcc atcagaggc 2280  
ctgtacctca tctactccca ggtcctcttc aagggccaag gctgcccctc caccatgtg 2340  
ctcctcaccc acaccatcag ccgcacatcgcc gtctcctacc agaccaaggt caacccctc 2400  
tctgcccata agagccctg ccagagggag accccagagg gggctgaggc caagccctgg 2460  
tatgagccca tctatctggg aggggtttc cagctggaga agggtgaccg actcagcgct 2520  
gagatcaatc ggcccgacta tctcgactt gccgagtctg ggcaggtcta cttgggatc 2580  
attgcccgt gaggaggacg aacatccaaac cttcccaaac gcctccctg ccccaatccc 2640  
tttattaccc ctccttcag acaccctcaa cctcttctgg ctcaaaaaga gaattggggg 2700  
cttagggtcg gaacccaagc tttagaactt aagcaacaag accaccactt cgaaacctgg 2760  
gattcaggaa tgtgtggct gcacagtgaa gtgctggca ccaactaagaa ttcaaaactgg 2820  
ggcctccaga actcactggg gcctacagct ttgatccctg acatctggaa tctggagacc 2880  
agggagcctt tggttctggc cagaatgctg caggacttga gaagacctca cctagaaatt 2940  
gacacaagtg gaccttaggc cttcctctt ccagatgttt ccagacttcc ttgagacacg 3000  
gagcccaagcc ctccccatgg agccagctcc ctctattttt gtttgcactt gtgattattt 3060  
attattttt tattttat ttatttacag atgaatgtat ttatttggg gaccggggta 3120  
tcctggggga cccaatgtag gagctgcctt ggctcagaca tggggccgt gaaaacggag 3180  
ctgaacaata ggctgttccc atgtagcccc ctggcctctg tgccttctt tgattatgtt 3240  
ttttaaaata ttatctgtat taagttgtct aaacaatgct gatttggta ccaactgtca 3300  
ctcattgctg agcctctgct ccccaggga gttgtgtctg taatcgccct actattcagt 3360  
ggcgagaaat aaagtttgct tagaaaagaa acatggtctc cttcttggaa ttaattctgc 3420  
atctgcctct tcttgggtt gggagaagc tccctaagtc ctctctccac aggtttaag 3480  
atccctcgga cccagtccca tccttagact ccttagggccc tggagaccc acataaaacaa 3540  
agcccaacag aatattcccc atcccccaagg aaacaagagc ctgaacctaa ttacctctcc 3600  
ctcagggcat gggaaatttcc aactctggga attc 3634

<210> 35  
<211> 19  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Known

effective ASO

<400> 35

cctgctcccc cctggctcc

19

<210> 36

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Known  
effective ASO

<400> 36

cccccacac ttccccctctc

20

<210> 37

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Known  
effective ASO

<400> 37

cccccacac ttccccctctc a

21

<210> 38

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Candidate  
TNF(alpha) ASO

<400> 38

tagacgataa aggggtcaga g

21

<210> 39

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Candidate  
TNF(alpha) ASO

<400> 39  
cagtctggga agctctgagg g 21

<210> 40  
<211> 19  
<212> DNA  
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Candidate  
TNF(alpha) ASO

<400> 40  
gggatagctg gtagtttag 19

<210> 41  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Candidate  
TNF(alpha) ASO

<400> 41  
catttctttt ccaagcgaac 20

<210> 42  
<211> 21  
<212> DNA  
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Candidate  
TNF(alpha) ASO

<400> 42  
aggctcctgt ttccggggag a 21

<210> 43  
<211> 21  
<212> DNA  
<213> Artificial Sequence  
  
<220>  
<223> Description of Artificial Sequence: Candidate  
TNF(alpha) ASO

<400> 43  
ctggccctt ggtgcctcg c

21

<210> 44  
<211> 21  
<212> DNA  
<213> Artificial Sequence  
  
<220>  
<223> Description of Artificial Sequence: Candidate  
TNF(alpha) ASO

<400> 44  
ttgctgttct ccctcctggc t

21

<210> 45  
<211> 21  
<212> DNA  
<213> Artificial Sequence  
  
<220>  
<223> Description of Artificial Sequence: Candidate  
TNF(alpha) ASO

<400> 45  
ttcttgccct ccctccctac t

21

<210> 46  
<211> 21  
<212> DNA  
<213> Artificial Sequence  
  
<220>  
<223> Description of Artificial Sequence: Candidate  
TNF(alpha) ASO

<400> 46  
cctctttccc ttaccctcct g

21

<210> 47  
<211> 21  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Candidate  
TNF(alpha) ASO

<400> 47  
ggtctccctc cccaaactctc c

21

<210> 48  
<211> 21  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Candidate  
TNF(alpha) ASO

<400> 48  
cttcttcctt gttccccctgg c

21

<210> 49  
<211> 21  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Candidate  
TNF(alpha) ASO

<400> 49  
tatctccctc gtctcccatc t

21

<210> 50  
<211> 21  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Candidate  
TNF(alpha) ASO

<400> 50  
gtttccccc tc catctccctc c

21

<210> 51  
<211> 21  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Candidate  
TNF(alpha) ASO

<400> 51  
gaaggcctccc cgctcttgc c

21

<210> 52  
<211> 21  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Candidate  
TNF(alpha) ASO

<400> 52  
aaagctttaa gtccccggcc c

21

<210> 53  
<211> 21  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Candidate  
TNF(alpha) ASO

<400> 53  
cctattccct ttcctcccaa a

21

<210> 54  
<211> 21  
<212> DNA  
<213> Artificial Sequence  
  
<220>  
<223> Description of Artificial Sequence: Candidate  
TNF(alpha) ASO  
  
<400> 54  
cccttaggtt tcccagcaag c

21

<210> 55  
<211> 21  
<212> DNA  
<213> Artificial Sequence  
  
<220>  
<223> Description of Artificial Sequence: Candidate  
TNF(alpha) ASO  
  
<400> 55  
ctggtcttc cacgtccat t

21

<210> 56  
<211> 21  
<212> DNA  
<213> Artificial Sequence  
  
<220>  
<223> Description of Artificial Sequence: Candidate  
TNF(alpha) ASO  
  
<400> 56

gcagccttgt cccttgaaga g

21

<210> 57  
<211> 21  
<212> DNA  
<213> Artificial Sequence  
  
<220>  
<223> Description of Artificial Sequence: Candidate  
TNF(alpha) ASO

<400> 57  
cttgagctca gctccctcag g 21

<210> 58  
<211> 21  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Candidate  
TNF(alpha) ASO

<400> 58  
gctggaagac tcctcccagg t 21

<210> 59  
<211> 21  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Candidate  
TNF(alpha) ASO

<400> 59  
gctgagcagg tcccccttct c 21

<210> 60  
<211> 21  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Candidate  
TNF(alpha) ASO

<400> 60  
agagccacaaa ttccctttct a 21

<210> 61  
<211> 21  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Candidate  
TNF(alpha) ASO

<400> 61  
gcctgaagac agcttcccaa c

21

<210> 62  
<211> 19  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Candidate  
TNF(alpha) ASO

<400> 62  
cagtcacggc tcccggtggg

19

<210> 63  
<211> 21  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Candidate  
TNF(alpha) ASO

<400> 63  
gggaaattcc caggaccagg g

21

<210> 64  
<211> 21  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Candidate  
TNF(alpha) ASO

<400> 64  
atttgaaatt cccagagtgg g

21

<210> 65

<211> 21  
<212> DNA  
<213> Artificial Sequence  
  
<220>  
<223> Description of Artificial Sequence: Candidate  
TNF(alpha) ASO  
  
<400> 65  
actttcccaag caggatatttg g

21

<210> 66  
<211> 20  
<212> DNA  
<213> Artificial Sequence  
  
<220>  
<223> Description of Artificial Sequence: Known  
effective ASO

<400> 66  
cagccatgg tccccccaac

20

<210> 67  
<211> 20  
<212> DNA  
<213> Artificial Sequence  
  
<220>  
<223> Description of Artificial Sequence: Known  
effective ASO

<400> 67  
ttcccccagat gcacctgttt

20

<210> 68  
<211> 20  
<212> DNA  
<213> Artificial Sequence  
  
<220>  
<223> Description of Artificial Sequence: Known  
effective ASO  
  
<400> 68

gacatccctt tccccctcgg

20

<210> 69  
<211> 16  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Known  
effective ASO

<400> 69  
gatccccggg taccca

16

<210> 70  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Known  
effective ASO

<400> 70  
gtcagccatg gtccccccccc

20

<210> 71  
<211> 22  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Known  
effective ASO

<400> 71  
atgccctcat cttcccccc at

22

<210> 72  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Known  
effective ASO

<400> 72  
gttctcccaag cgtgtgccat 20

<210> 73  
<211> 21  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Known  
effective ASO

<400> 73  
aacccatttttgtgtccac c 21

<210> 74  
<211> 18  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Known  
effective ASO

<400> 74  
gtccccaaaggatggaggag 18

<210> 75  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Known  
effective ASO

<400> 75  
cacccgcctt ggcctccac 20

<210> 76  
<211> 20

<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Known effective ASO

<400> 76  
tcccgctgt gacatgcatt 20

<210> 77  
<211> 18  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Known effective ASO

<400> 77  
ccatcccgac ctcgcgct 18

<210> 78  
<211> 18  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Known effective ASO

<400> 78  
ccacgtcccg gatcatgc 18

<210> 79  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Known effective ASO

<400> 79  
tctgctgtcc ctgtaataaa 20

<210> 80  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Known  
effective ASO

<400> 80  
aacccagtgc tccctttgct 20

<210> 81  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Known  
effective ASO

<400> 81  
aaaacgtcag ccatggtccc 20

<210> 82  
<400> 82  
000

<210> 83  
<400> 83  
000

<210> 84  
<400> 84  
000

<210> 85  
<400> 85  
000

<210> 86  
<400> 86  
000

<210> 87  
<400> 87  
000

<210> 88  
<400> 88  
000

<210> 89  
<400> 89  
000

<210> 90  
<400> 90  
000

<210> 91  
<400> 91  
000

<210> 92  
<400> 92  
000

<210> 93  
<400> 93  
000

<210> 94  
<400> 94  
000

<210> 95  
<400> 95  
000

<210> 96  
<400> 96  
000

<210> 97  
<211> 21  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Control  
oligonucleotide

<400> 97  
cagatgacct ccccccgtgg a 21

<210> 98  
<211> 21  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: ASO-9

<400> 98  
tcctccttgt tcccttcggc t 21

<210> 99  
<211> 21  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Control  
oligonucleotide

<400> 99  
cgtcttcact tccgtgtagg c 21

<210> 100  
<211> 21  
<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: 2-base  
mismatch of ASO-9

<400> 100

tcctcggtt tcgcttcggc t

21

<210> 101

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: 3-base  
mismatch of ASO-9

<400> 101

tcctcggtt tcgcacatcgcc t

21

<210> 102

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: 4-base  
mismatch of ASO-9

<400> 102

tccacgttgt acgcacatcgcc t

21

<210> 103

<400> 103

000

<210> 104

<400> 104

000

<210> 105

<400> 105

000

<210> 106  
<400> 106  
000

<210> 107  
<211> 21  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Complement of  
ASO-9

<400> 107  
agccgaaggg aacaaggagg a

21

<210> 108  
<211> 1889  
<212> DNA  
<213> Rattus norvegicus

<400> 108  
gctttatctg ctaagctccg ctcagtttag catgctgcgc gccgcactca gcaccgcccc 60  
ccgtggcca cgcctgagcc gcctgctgtc cgccgccc accagcgcc tgccagcccc 120  
caaccagcag cccgaggctt tctgcaacca gatcttcatt aacaatgagt ggcatgatgc 180  
tgtcagcaag aaaacattcc ccaccgtcaa cccttccacg ggggaggctca tctgccaggt 240  
agccgaaggg aacaaggagg acgttagacaa ggcagtgaag gccgctcagg cagccttcca 300  
gctgggctcg ccctggcgcc gcatggatgc atctgacagg ggccggctgt tgtaccgatt 360  
ggctgatctc atcgaacggg accggaccta cctggcgcc ttggagaccc tggacaacgg 420  
caagccttat gtcatctcct acctggtgga tttggacatg gttctgaaat gtctccgcta 480  
ttatgctggc tgggctgaca agtaccacgg gaaaaccatt cccatcgatg gcgacttctt 540  
cagctacacc cgccacgagc ctgtggcggt gtgtggacag atcattccgt ggaacttccc 600  
gctcctgatg caagcctgga agctggccc tgccttggca actggaaacg tggtggtgat 660  
gaaagtggcc gagcagacac cgctcactgc actctacgtg gccaacttga tcaaggaggc 720  
aggcttcccc cctgggtgtgg tcaatattgt tcctggattc ggcccttaccc ccggggctgc 780  
catcgcgtcc cacgaggatg tggacaaaat ggccttcaca ggttccactg aggttggtca 840  
cctaattccag gttgcggccg ggagcagcaa tctcaagaga gtaaccctgg aactgggggg 900  
aaagagcccc aatatcatca tgcacatggac tgggctgtgg aacaggcccc 960  
ctttgccttg ttcttcaacc agggccatgt ctgttggcg ggctccggaa ctttcgtgca 1020  
ggaggatgt tatgatgaat tcgtggaaacg cagttggcc cggggccaatg ctcgggtgg 1080  
cgggAACCTG ttgcacagcc ggacggagca gggccgcag gtggatgaga ctcagttaa 1140  
gaagatcctg ggctatatac agtcaggaca acaagaagg gccaagctgc tgcgtgg 1200  
ggcgccgccc gcagaccgtg gttacttcat ccagccccacc gtgttcggag acgtcaaaga 1260

tggcatgacc atcgccaagg aggagatott cggaccagtg atgcagatcc tcaaattcaa 1320  
gaccatttag gaggttgtgg ggcgagccaa taattccaa tacgggctgg ctgccgctgt 1380  
cttcacaaag gacctggaca aggccaaatta cctgtcccaa gctctgcagg ctgggactgt 1440  
gtggatcaac tgctacgatg tggttggggc ccagtccccaa tttggtggtataaagatgtc 1500  
ggggagcggc agggagctgg gcgagtatgg cctgcaggcc tacacggaa tgaagacgg 1560  
caccgtcaaa gtgccacaga agaactcgta aagtggcgtg caggcttccct cagccagcgc 1620  
ccaaaaaccc aacaagatcc tgagaaaagc caccaccaag cacactgcgc ctgccaagag 1680  
aaaacccctt caccacaaagcg tcttgggcca agaaaagtcag gatttgataa acagggcagg 1740  
gttggtgggc ggtgtgtggg gagcatccca gtaaaactggg gaagggagga gctctgtgca 1800  
gactaccacg cgacacgcaca cacgctcaact gggtccttct gtgctggatg ctggttccac 1860  
cctcagtgct taaacaaatg agcaataaa 1889

<210> 109  
<211> 21  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Complement of  
human anti-ALDH2 ASO

<400> 109  
agctgaaggg gacaaggaag a

21

<210> 110  
<211> 1989  
<212> DNA  
<213> Homo sapiens

<400> 110  
gctctcggtc cgctcgctgt ccgctagccc gctgcgatgt tgcgcgctgc cgccgctcg 60  
gccccgcctg gccgcgcctt ctgtcagcc gccgccaccc agggcggtcc tgcccccaac 120  
cagcagcccg aggtttctg caaccagatt ttcataaaca atgaatggca cgatgcgc 180  
agcaggaaaa cattccccac cgtcaatccg tccactggag aggtcatctg tcaggttagct 240  
gaaggggaca aggaagatgt ggacaaggca cgtgaaggcc gcccgggccc cttccagctg 300  
ggctcacctt ggccgcgcatt ggacgcattca cacagcggcc ggctgctgaa ccgcctggcc 360  
gatctgatcg agcgggaccg gacctacctg gcggccttgg agacccttgg caatggcaag 420  
ccctatgtca tctccttacct ggtggatttg gacatggtcc tcaaattgtct ccgttattat 480  
gcccggctggg ctgataagta ccacggggaaa accatccccca ttgacggaga cttcttcagc 540  
tacacacgccc atgaacctgt ggggggtgtgc gggcagatca ttccgtggaa tttcccgctc 600  
ctgatgcaag catgaaagct gggcccgacc ttggcaactg gaaacgtgggt tgtatgaaag 660  
gtagctgagc agacacccctt caccgccttc tatgtggcca acctgatcaa ggaggctggc 720  
tttccccctg gtgtggtcaa cattgtgcct ggatttggcc ccacggctgg ggccgcatt 780  
gcctcccatg aggatgtggaa caaagtggca ttacacaggctt ccactgagat tggccgcgt 840  
atccaggttg ctgctgggag cagcaacccctc aagagagtga cttggagct ggggggaaag 900  
agcccccaaca tcatcatgtc agatgcgcgtt atggatttggg ccgtggaaaca ggcccacttc 960

gccctgttct tcaaccaggg ccagtgctgc tgtgccggct cccggacctt cgtgcaggag 1020  
gacatctatg atgagtttgt ggtgcggagc gttgcccggtt ccaagtctcg ggtggtcggg 1080  
aaccctttt atagcaagac cgagcagggg ccgcaggtgg atgaaactca gtttaagaag 1140  
atcctcggtt acatcaacac ggggaagcaa gagggggcga agctgctgtg tggggggc 1200  
attgctgctg accgtggta cttcatccag cccactgtgt ttggagatgt gcaggatggc 1260  
atgaccatcg ccaaggagga gatctcggg ccagtgtatgc agatcctgaa gttcaagacc 1320  
atacaggagg ttgttggag agccaacaat tccacgtacg ggctggccgc agctgtcttc 1380  
acaaaaggatt tggacaaggc caattacctg tcccaggccc tccaggccggg cactgtgtgg 1440  
gtcaactgct atgatgtgtt tggagcccg tcacccttg gtggctacaa gatgtcgggg 1500  
agtggccggg agttggcga gtacgggtc caggcataca ctgaagtgaa aactgtcaca 1560  
gtcaaagtgc ctcagaagaa ctcataagaa tcatgcaagc ttccctccctc agcattgtat 1620  
ggaaaagttca gcaagatcag caacaaaacc aaaaaaaatg atccttgcgt gctgaatatc 1680  
tgaaaagaga aatttttcct aaaaaatctc ttgggtcaag aaagttctag aatttgaatt 1740  
gataaacatg gtgggttggc tgaggtaag agtatatgag gaaccttta aacgacaaca 1800  
atactgctag cttcaggat gattttaaa aaatagattc aaatgttta tcctctct 1860  
gaaacgcttc ctataactcg agtttatagg ggaagaaaaa gctattttt acaattatat 1920  
caccattaag gcaactgcta caccctgctt tgtattctgg gctaagatTC attaaaaact 1980  
agctgctct 1989

<210> 111  
<211> 21  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Human  
anti-ALDH2 ASO

<400> 111  
tcttccttgt ccccttcagc t

21